Soil Conservation

February 1977

U.S. Department of Agriculture

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From the Administrator

Trees . . . from the Ground Up

Most foresters agree that a pinch for wood will be upon Americans by the year 2000, a pinch that will come from an increasing population's demand for more wood products and for the other amenities we expect from a forest land base that is dwindling.

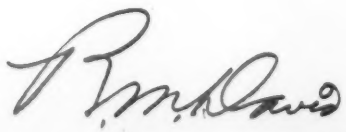
Time passes quickly on forestry's calendar. Trees planted this year will be only half-grown by 2000. Woodland thinnings, improvement cuttings, and other forestry management practices accomplished today will not pay maximum dividends until the turn of the century.

The Soil Conservation Service is in a unique position to help the nation meet future wood needs. For more than 30 years, SCS has been documenting the relationships between soils and wood production potential. Data from nearly 20,000 soil-woodland correlation plots will be in computer storage by the end of this year. The data can help a landowner know which of his soils are most productive—as well as help the nation determine what technical and financial assistance programs can provide the best results for the time and money invested.

Forested lands can be used in many ways to produce varied benefits. Use of soil-woodland interpretations will help answer a multitude of questions. What species are best suited for planting? What is the potential for wood production? Where are the prime forest lands that might best be devoted to intensive use? Which soils would best be reserved for uses other than wood production? What soil-related problems and limitations must be overcome?

Improved forest management requires the close teamwork of many people, beginning with the landowner. It requires not only foresters, but also soil scientists, soil conservationists, plant materials specialists, biologists, and loggers. Better management needs the cooperation of SCS and USDA's Forest Service with state forestry agencies, colleges, and forest industries. It calls for support of conservation districts and their associations as well as of citizen groups.

All of us need to be involved in helping people make sound decisions. In forest management, effects of mistakes are felt for decades.



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Secretary of Agriculture

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Soil Conservation Service

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After a tragic flash flood in Charleston, West Virginia, community leaders teamed up to repair damaged hillsides and streambanks—and to look for ways to stop future damage.

The Donnally Hollow Washout

by Dixie L. Shreve

A thunderstorm that "got hung up on some tall hills" south of Charleston, West Virginia, the night of July 9, 1973, poured down more than 5 inches of rain in just 3 hours.

The area is drained by streams flowing through small, steep hollows to the Kanawha River. One of the hardest hit valleys, Donnally Hollow, is so narrow that streets and streams take all the bottom land. Houses are crowded back onto the hillsides.

One Donnally Hollow resident reported that he was awakened by the storm, and peered from his front door into the mist, rain, and blackness. Then, in lightning flashes he saw a washing machine floating across the front yard. He ran to the back door and heard timber falling higher up on the hillside.

Although he and his family safely "rode it out," destruction struck just a few houses away. An avalanche of soil, trees, brush, rocks, and water hit two nearby houses, washing one from its foundation into the street. Five people were swept from the house, but all survived. A log shot like a battering ram through the back of the other house almost to the front porch. The back bedroom roof collapsed under mud and debris, killing three children.

After the flash flood, the Soil Conservation Service helped the city of Charleston develop a revegetation plan for Donnally Hollow. SCS recommended Kentucky 31 fescue to stabilize the hillsides and streambanks because it is efficient, inexpensive, and readily available. The city limed, fertilized, seeded, and mulched critical areas immediately.

With technical assistance from SCS, the city cleaned debris and sediment out of Upper Donnally Creek. The city also reworked the storm drainage system in the area, enclosing part of the creek in a storm sewer.

The West Virginia Legislature appointed a special committee to investigate the causes of the Donnally Hollow flood and to recommend action for preventing damage from flash floods on other creeks. At the committee's recommendation, each of the state's 55 counties listed its streams most in need of emergency cleanout. Work has been completed on the first of the high-priority streams.

Mr. Shreve is district conservationist, SCS, Charleston, West Virginia.

Donnally Hollow hours after the flash flood struck—stunned residents survey the damage. Soil, trees, and rocks ripped from hillsides cover the valley floor (at left). Neighbors search for victims in house destroyed by mudslides during the 5-inch, 3-hour-long rainfall (above).

Work crews begin plantings to help stabilize the steep hillsides, one of the first steps in a revegetation plan designed to reduce the danger of severe damage from future heavy rains.

Conservation districts are using state laws and SCS technical assistance in programs to help maintain water quality and to boost grazing and timber production on private woodlands in the Pacific Northwest.

Better Management For Farm Woodlands

by Duane A. Bosworth

Water in Pacific Northwest streams and rivers is cleaner, and grazing and timber production are up—largely because of improved conservation management on privately owned woodlands.

New state laws and conservation district programs are focusing attention on the need for good woodland management on small farm forests in Washington, Oregon, Idaho, and northern California. These small woodlands, along with Pacific Northwest commercial forests, account for nearly half the timber going into houses throughout the United States.

The new state laws carry various titles, but all deal with forest-cutting practices. They are designed to assure that timber cutting, hauling, and replanting are planned as a conservation package that results in minimal soil erosion and improved water quality.

Because erosion control is so important in Forest Practice Acts, local conservation districts and the Soil Conservation Service are receiv-

Expanded woodland conservation efforts help cut down the amount of sediment that enters Pacific Northwest streams.

"Since the campaign started 6 years ago, lots of defeatist talk about forestry has turned into predictions for a sunny future."

Oregon farmer constructs water bars to lessen the chance of erosion on firetrails through his woodland.

A combination of conservation measures used on Al Deishl's Washington tree farm (right) nearly eliminates soil erosion during harvest.

ing increasing numbers of requests for technical assistance in seeding road cuts, controlling water runoff, and designing haul roads and trails to keep erosion from getting started.

In Washington, two recent developments affect farm woodland operations.

One is a new property tax assessment system for the state's 4.8 million acres of small farm forests. The soils on which these trees grow are being mapped, classified, and judged by SCS and state-employed soil scientists. When the job is completed by 1980, each acre will be taxed according to its capacity for producing wood.

In many instances, small woodland owners will pay much less than under the present tax system that bases assessments on the land's market value. At harvest time, however, owners will pay a yield tax.

"A result of the delayed tax program," said Bob Olson, SCS forester for Washington, "is incentive to undertake exactly those things—planting, fertilizing, thinning, and careful harvesting—that produce topnotch trees."

The other development affecting farm woodlands in Washington is the Forestry Practices Act that went into effect in January 1975. The act requires that erosion-control practices for logging operations be planned before skid trails or access roads are established. A Forest Service study has shown that logging roads can generate up to 95 percent of the sediment that results from logging operations on some Pacific Northwest soils. If roads are properly designed and laid out, however, sediment can be reduced to almost nothing, the study concluded.

Al Deishl, who has a 1,200-acre tree farm near Spokane, has developed a plan calling for a combination of conservation measures that nearly eliminates erosion during harvesting. He leaves a buffer zone of trees straddling small streams to slow bank erosion. Water bars across skid trails control water runoff, and fire suppression lanes help protect from fire damage.

The Forest Practices Act requires that each plan be approved by the Washington Department of Natural Resources. The state's Department of Ecology and Department of Fish and Game also review logging plans for operations that could affect salmon migration streams.

The changes in state law have encouraged Washington farmers, timber managers, and loggers to step up requests for technical assistance from SCS and the districts.

In Oregon, the forestry committee of the Upper Willamette Resource Conservation and Development area has initiated a campaign to help small woodland owners. The committee put together a booklet that shows how conservation management can make farm forestry profitable. To help prove the point, the committee arranged tours for small woodland owners to show well-managed operations on woodlands similar to their own. The committee also published

"Woodland conservation practices that improve grazing conditions for livestock also dramatically improve fish and wildlife habitat."

Planned woodland management after a fire is resulting in increased ruffed grouse numbers in this Douglas fir stand.

a booklet on specific practices for controlling soil loss on skid roads.

The forestry committee reached nearly all 8,000 owners of farm woodlands in the four-county area. Former committee chairman Sam Konnie notes that since the campaign started 6 years ago "lots of defeatist talk about forestry has turned into predictions for a sunny future."

SCS plant materials specialists at Corvallis, Oregon, are looking for grasses that can prevent devastating washes and gullies on skid roads. Three years of plant materials testing on 200 acres of woodland sites has produced new and effective erosion-control plants.

Near the coast, where annual rainfall is 60 inches or more, 'Marshfield' big trefoil is proving effective for protecting logging roads and road cuts. SCS field trials are underway to see whether the plant could be used for reseeding logged or burned areas to create a temporary cover until new trees are well established. 'Marshfield' big trefoil has an added benefit: It is a food favored by deer and elk.

In the 30-inch to 60-inch rainfall areas where Douglas fir dominates, tests show that 'Cascade' birdsfoot trefoil is better suited. It often is planted with intermediate and pubescent wheatgrass. This grass-legume combination forms a sod that is effective in reducing soil erosion.

One benefit of both 'Marshfield' and 'Cascade' trefoils is that they stay green throughout the summer. Both are fire-resistant and create barriers to ground fires when seeded along old skid roads.

The Corvallis Plant Materials Center now is releasing a variety of dwarf English trefoil called 'Kalo' that also has shown great potential as a soil-stabilizing plant.

Idaho, like Washington, has enacted a Forest Practices Act. The act encourages reforestation, stream protection, proper slash disposal, protection of scenic areas, and erosion control during logging. Owners of small woodland tracts usually can meet erosion control requirements of the Forest Practices Act if their conservation plans include good woodland management.

To accompany the Forest Practices Act, conservation districts in northern Idaho have launched an information campaign to encourage owners to thin their woodland stands. Thinning opens overcrowded timber stands, allowing more sunlight to reach the understory and providing room for more rapid tree growth.

Most farm woodlands are grazed in the Idaho cattle country, even where grass is sparse and trees are spindly and crowded. Through newspaper and magazine articles, SCS and conservation district leaders are advising stockmen that thinning practices can more than double grass and tree production.

There are nearly 3 million acres of small, private woodland tracts in northern Idaho. Nearly half this acreage needs thinning, according to Dave Poe, SCS area forester.

Nick Ormonde and Warren Smith,

One aim: providing alternatives to the "quick and dirty" harvest on steep slopes with unstable soils.

each operating 640 acres in Idaho's panhandle, use their woodlands for grazing.

"Historically, woodland grazing and tree growth have gone on with little or no thought about any kind of management," said Ormonde. "Today, with the need for increased efficiency in agricultural production and anticipated shortages in wood fiber, we need better woodland management efforts."

A small trout stream, Lancaster Creek, runs through both farms. The water is crystal clear and stays that way, although trees are logged in the area almost daily.

Smith and Ormonde help prevent erosion and subsequent sedimentation by constructing logging roads on gentle grades and installing proper drainage. They revegetate bare areas with a mixture of adapted grasses and legumes. Attractive log bridges provide access across Lancaster Creek, and metal culverts carry small creeks under logging roads.

Ormonde uses a cable-logging

Conservation districts throughout the Northwest have developed woodland programs to assist farmers in planning restocking needs after harvest (top photo) and to provide technical help for thinning (bottom) and other management efforts.

"A result of the delayed tax program is incentive to undertake exactly those things—planting, fertilizing, thinning, and careful harvesting—that produce topnotch trees."

"Woodland grazing and tree growth have gone on with little or no thought about any kind of management. Today, we need better woodland management efforts."

SCS plant materials testing shows 'Cascade' trefoil (above) ideal for protecting road cuts.

A well-managed Douglas fir stand in Oregon is typical of small, private woodland operations in the Northwest.

system to winch trees onto logging roads; Smith uses a rubber tire skidder. Both systems minimize damage to the logging sites.

Smith and Ormonde remove trees damaged by insects or disease and trees of poor quality, leaving growing room for the larger, more vigorous trees. They thin stands of young trees that have no commercial value, clean up all slash, and use the smaller trees for making posts.

Ormonde points out that good forestry practices also benefit livestock by increasing grazing capacity. "An unmanaged stand of timber grows slower and has little grass and few shrubs on the forest floor," he said. "A natural stand requires more than 40 acres to support a cow for one month. I've found that a well-managed stand requires only 10 acres for one cow per month."

Both landowners divide pastures and woodland into grazing units so they can rotate livestock, resting each unit once every 4 years until plants reach maturity.

"Grazing must be managed in a planned system to control soil erosion, prevent soil compaction, and keep undesirable plants from coming in," said Ormonde.

"And woodland conservation practices that improve grazing conditions for livestock also dramatically improve fish and wildlife habitat," Smith added.

In California, two-thirds of the state's privately owned forest acres are small woodland tracts owned by 30,000 individuals. Woodland operators have organized as the Forest Landowners of California, an association that represents the owners in decisions implementing the state's 1973 Forest Practices Act.

Working with the Forest Landowners of California, conservation districts and SCS are providing technical assistance to hundreds of woodland operators. One is Wayne Miller, president of the organization, who operates 1,700 acres in Mendocino County.

Through a long-term agreement with his conservation district and SCS, Miller has had a commercial logger harvest his timber on 50 selected acres for each of the last 2 years. A strict contract with the logger covered all aspects of erosion control, spelling out specific requirements for skid roads, haul roads, stream crossings, and disturbed area seeding.

Other small woodland owners in Mendocino County used SCS and district assistance in constructing 12 miles of erosion-resistant access roads that will serve 10 future logging operations. Constructing the roads bared 32 acres of cuts and fills, but these were reseeded according to SCS standards and specifications for critical areas.

Mr. Bosworth is Head, Field Information Unit, SCS, West Technical Service Center, Portland, Oregon.

Mission to The Gambia

An SCS soil scientist and a soil conservationist see hope for a new, resource-poor West African republic through better soil and water management.

United States conservationists continue to share their experience and expertise with developing nations. Last October, William M. Johnson, SCS deputy administrator for technical services, and R. Neil Sampson, soil conservationist, visited a small West African country called The Gambia. Their mission: to help the Gambian Department of Agriculture set up a soil and water conservation program. A republic since 1971, The Gambia is a ribbon-shaped nation consisting largely of the Gambia River and its bottom land. It stretches 292 miles from the Atlantic Ocean, but averages only 13 miles in width. Per capita gross national product is about $140 a year.

The average Gambian in this agricultural nation will have to rely on better conservation and farming practices if he is going to improve his standard of living very much, since he has no resources except his soil and water. The best Gambian soils, reports Johnson, are moderately productive, but much of the country is low-lying, poorly drained, and swampy. Grass and timber resources are being overused because of increasing population. Monsoon rains frequently bring severe floods to the lowlands.

But Johnson and Sampson found that, despite these handicaps, an active agricultural extension service in The Gambia is teaching villagers agronomy, crop rotation, and disease control. Many farmers already have advanced from tillage by hoe to tillage by a team of oxen, a major step forward. Farmers also shift cultivation at intervals to improve soil fertility and commonly practice intercropping. The SCS team found that the best hope for a nation like The Gambia lies in a steady improvement in its agriculture and careful conservation of its remaining natural resouces.

Village children, including a boy wearing Joe Namath's number 12, form part of an expanding Gambian population expected to reach one million by the year 2000, double the present number of inhabitants. The diet of the current population already is short of protein.

At left, capital of The Gambia is Banjul, on the Atlantic Ocean. Corrugated iron roofs are typical of the better buildings of the small republic; many village homes have thatched roofs. Gambian exports amount to about $25 million, nearly all of it from the sale of peanuts. Except for one small peanut oil mill, there is no industry in the country.

At right, Gambian men assemble on a woven mat at a meeting place under a tree at the center of the village to hear a representative of the Gambian Department of Agriculture. Land is owned by the state but is distributed for farming to village men by the local chief. Seed peanuts and superphosphate come from the government; crops are sold back to the government. The right to use land for farming is a village birthright.

Above, one has his choice of taking a ferry or rowing his own boat to cross the Gambia River, which is as wide as 8 miles at its mouth. There are no bridges across the river within The Gambia.

At left, saline water is a growing problem among Gambian farmers, since storms may drive salt water 50 miles or more up the Gambia River. When salt water backs into rice fields, yields fall off sharply.

Patches of eroded soil are clearly visible from the air, pointing to the need for a soil conservation program in the new African republic.

Above, farmers welcome roving herds of cattle and their herdsmen as mobile fertilizer units. Boys stake out cattle at intervals in fields until enough manure has dropped in the area.Then they move the stakes to a fresh area. Cattle stick around until grazing is exhausted. Cattle are N'dama, an indigenous breed that is tame, docile, and resistant to local insects and parasites.

A large Gambian village includes a Muslim mosque at the center of town, a number of better homes and buildings, and many round adobe huts with thatched roofs. Farmers walk to fields that surround each village, much as Europeans did in Middle Ages. There are no motor vehicles in the town.

Millet, a staple of the Gambian diet, often grows as high as 12 to 14 feet in soils recently wrested from forest. Rice is also a staple, but unlike millet and peanut acreages, rice fields are allotted to women, following them when they marry.

A boy guides oxen in plowing a field, which will become infertile after 4 or 5 years and be allowed to revert to forest. Traditionally, the land was left in trees for 20 years to rebuild soil fertility. With new population pressures, however, many villages are clearing forests after as little as 5 years, a practice that will mean lower crop yields.

by James E. Schmidt

When this North Dakota farmer noticed that wildlife was vanishing from his farm, he began work to bring back the animals. Windbreaks and farm ponds have helped do the job.

Welcome Back, Wildlife

Grass strip planted along multiple-row windbreak offers additional cover, food, and nesting sites for a variety of wildlife.

During the past decade, the wildlife population on Albert Schwenk's farm has doubled. And the North Dakotan says he will not be surprised if it doubles again in the coming decade.

Schwenk and his 2 brothers run a 2,100-acre farm in Hebron, Dunn County, that supports 100 head of Hereford cattle and yields a rich harvest of wheat, corn, oats, and barley.

"But for me, cattle and grain never have been enough," Schwenk explained. "About 10 years ago, I noticed a decline in the number of wild animals that had lived on this land for as long as I could remember. So, I decided to apply conservation practices that would improve wildlife habitat. Believe me, it's been worth the time, the money, and the effort."

It is the Schwenk brothers' extensive work with windbreaks and farm ponds that have given wildlife a helping hand. They planted 15 acres of trees—single and multiple rows of Russian olive, plum, and American and Siberian elm.

"The shelterbelts provide food and cover for all kinds of wildlife," Schwenk said. "Now we have plenty of deer and rabbits, ring-necked pheasants, partridges, ducks, and grouse. Occasionally, we even see an antelope."

The trees also reduce soil erosion in nearby fields, and cause snow to distribute fairly evenly rather than in windblown drifts.

"Dual purpose planning" is the term Schwenk uses to describe his balanced efforts to save soil and to improve wildlife habitat.

Soil and water conservation is not new to the Schwenk brothers. They have been Dunn County Soil Conservation District cooperators for 30 years, and their wildlife efforts have won them the North Dakota Wildlife Habitat Award for Dunn County.

Schwenk knows "word" travels fast in the animal kingdom. His several farm ponds attract large flocks of migratory wild ducks just before the mating season.

"Ducks never came here before we had the ponds," he said. "Now they come by the hundreds. They nest and raise their young in the grasses that surround the ponds. It's satisfying to know that our work and planning have paid off," said Schwenk.

"To see wild ducks overhead . . . to know that rabbits and ring-necked pheasants find shelter on my land—I can't measure the value of those things in dollars and cents."

Mr. Schmidt is district conservationist, SCS, Bowbells, North Dakota.

When a new power plant was built in Maryland, its sophisticated construction needs dictated a sophisticated sediment control plan to protect the Chesapeake Bay.

by Hagner R. Mister
and Katherine Gugulis

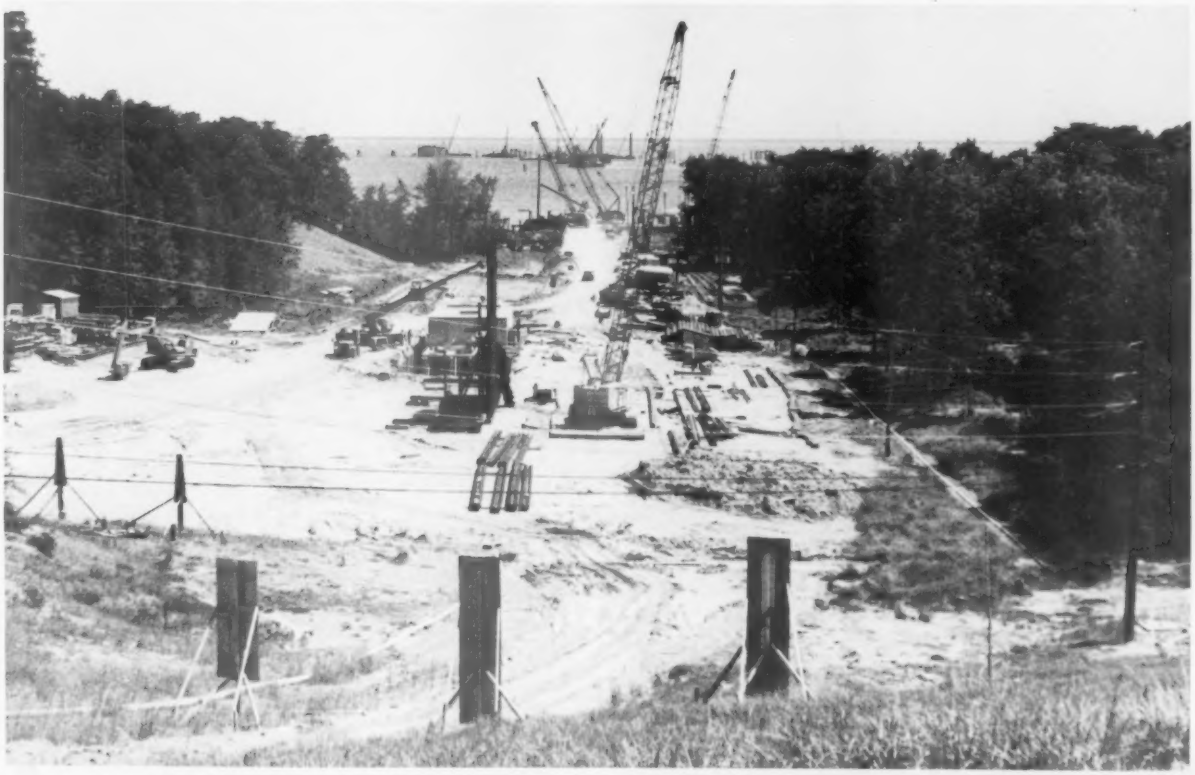
Sediment Control on the Banks of the Bay

Life in Calvert County, Maryland, is almost as easygoing as it was in colonial days. Yet, this historic county on the Chesapeake Bay is the site of one of the most elaborate sediment control systems in the nation.

In 1972, when Columbia LNG (Liquefied Natural Gas) Corporation built a plant at Cove Point, it also put into operation a sediment control plan that has prevented tons of soil from damaging the bay and a nearby freshwater marsh.

Tony Trubisz, resident engineer at the Cove Point facility, said company officials were somewhat dismayed when they discovered they were required to prepare such a plan for their 1,022-acre site under the Maryland Sediment Control Law of 1970.

Company officials contacted the Calvert Soil Conservation District (SCD) and the Soil Conservation Service for technical assistance. SCS recommended erosion and sediment control measures tailored to Columbia's unique needs.



The plan saved money, according to Cove Point's engineer. "Post-construction cleanup and maintenance problems would have cost us more than the sediment control measures did."

Columbia converts liquefied natural gas imported from Algeria back to a vaporous state and then pipes it to Loudon County, Virginia, for distribution. At Cove Point, the liquefied gas is transported from an offshore dock for processing and storage in four tanks, each capable of holding 375,000 barrels of liquefied gas.

As part of a series of agreements with the Sierra Club, Columbia constructed an underwater tunnel to the offshore dock—instead of a proposed mile-long trestle—to preserve the area's scenic appeal. Heavy insulation keeps the dock, tunnel, and storage tanks at a temperature of minus 260 degrees Fahrenheit to keep the liquid natural gas from vaporizing.

"More than 1.5 million cubic yards of soil were moved during construction of the storage area alone," said J. Arthur Bowen, district manager of the Calvert SCD, "but virtually none of that soil reached Chesapeake Bay."

Runoff was contained by a 1.5-mile-long drainage ditch system that encircled the storage tank area. The drainage ditch was linked by concrete channels to five sediment basins in the construction area. After sediment settled in the basins, the clarified water was discharged into the bay.

To lay the bed for the tunnel, a channel was excavated in the bottom of the bay. Following technical advice provided by the Calvert SCD, Columbia constructed a 30-acre pond into which the dredged spoil was pumped and allowed to settle. The technique kept spoil and saltwater out of a nearby freshwater marsh, which the company will turn over to the Maryland Department of Natural Resources for an environmental study area. After construction is complete, Columbia plans to maintain the pond for wildlife.

"We found that the sediment control plan saved us money," Trubisz said. "The post-construction cleanup and maintenance problems would have cost us more than the sediment control measures did."

More important, according to Bowen, Columbia's plan helped protect the bay and marsh during the power plant construction.

Mr. Mister is a soil conservationist, SCS, Prince Frederick, Maryland.
Ms. Gugulis is public information officer, SCS, College Park, Maryland.

Columbia Engineer Tony Trubisz (left) and Hagner Mister examine cinder blocks that help slow down the runoff as it travels to sediment basin.

Underwater tunnel connects offshore dock to Columbia LNG Corporation's completed storage tank area. Each of the four tanks can store 375,000 barrels of liquefied natural gas.

Soil is kept out of nearby bay during construction work (at left) by a series of drainage ditches, channels, and sediment basins that encircle the site.

Grass Makes Less Work for the School Nurse

by Morris Gillespie

School grounds in Cleburne County, Alabama, are more attractive and useful after recent conservation efforts. And school officials are finding them safer as well.

Pleasant Grove is one of Cleburne County's five public schools—all with recent grounds improvements designed to control runoff water and reduce soil erosion. Each school is carrying out a conservation plan developed with help from SCS.

"This is the first time children in this school have had anything but rocks and red clay to play on. We used to have at least one injury a month caused by children falling from play equipment onto the hard ground and rocks. But, we've had no injuries since we put down grass and 8 inches of pine bark," according to Rudy K. Payne, principal of Pleasant Grove Grammar School in Cleburne County, Alabama.

The new grass is just one of the conservation measures recently added to the grounds of all five Cleburne County schools. The effort was sponsored by the Coosa Valley Resource Conservation and Development area and the Cleburne County Board of Education.

Superintendent of Schools Bill Ayers signed a cooperative agreement for each of the schools with the Cleburne County Soil and Water Conservation District (SWCD) and worked with Soil Conservation Service district conservationist Troy Bradford in developing a complete conservation plan for the grounds of each school.

Work began on Pleasant Grove's playground in the spring of 1973. The county road department filled gullies, smoothed the area, and developed diversion terraces and grassed waterways. Concrete sidewalks were built in areas of heavy traffic where grass would be difficult to maintain. Headwalls, flumes, and curbs were installed to carry runoff water.

Bermudagrass was seeded on the play fields, centipedegrass was sodded in shady areas, and sericea lespedeza was planted on a very steep, severely eroded area where grass could not be established. Students planted 1,000 shrubs donated by the SWCD. The State Department of Conservation, through the Alabama Forestry Commission, gave several species of plants for wildlife food and cover.

"In the past, the grounds stayed so muddy that the children couldn't play on them for a week after a big rain. Now, they can go out within one day," Payne said.

Ayers said he would recommend such a project to any school with similar playground problems. "Last year, for the first time, we kept the grounds mowed, and we will keep them fertilized and mowed from now on. It has brought about community pride and a close working relationship between school officials and community and county leaders."

Mr. Gillespie is public information officer, SCS, Auburn, Alabama.

It's a rough-and-tumble world at recess. A combination of grass plantings and strategically located bark mulch patches has cut Pleasant Grove's injury rate to zero.

Rudy Payne (left) and Troy Bradford check plant growth on slope protected by new diversion terrace.

Used to Be Just Wishful Thinking

by Nevin Ulery

What once was a 100-foot-high heap of black coal refuse now is a flourishing community park. A small town's first federal grant helped finance the transformation.

Three decades ago, a 7-acre pile of black coal refuse sat squarely in the center of Cokeburg, Pennsylvania. It was 100 feet high. Today it is the nucleus of Cokeburg Community Park—an 18-acre playground, ball park, and picnic area.

How did the local eyesore turn into a local asset?

In 1902, the Ellsworth Collieries Company—now part of Bethlehem Mines Corporation—built Cokeburg as a coal "company town." Ellsworth located the new settlement in a rich coal field 25 miles south of Pittsburgh.

Coal was the community's economic lifeblood for more than 40 years. By 1927, Cokeburg's population had grown to 1,700 people, many of them proud hard-working immigrants from eastern Europe.

During the mining "boom years," a small mountain of black coal refuse accumulated in the center of the

Before work began, the top of the coal refuse "mountain" is marked by the beginnings of gullies—cuts that widened and deepened as the material washed into streets, storm sewers, and a nearby creek.

Today, there's a new place for games, picnicking, and other recreation activities. Residents are planning to construct additional facilities to make the new park an even more useful community asset.

The 100-foot-high refuse heap dominates the center of a 1946 view of Cokeburg (right, above), a "company town" that just had been turned over to residents by the coal company. A look 30 years later (right, below) shows no sign of the 26-acre pile—gone to make way for a community park.

community near the mine shaft entrance. By the early 1940's, the coal supply was exhausted, and the refuse pile was 100-feet high.

At this point, the company decided to turn the town over to its residents. The company installed a water supply reservoir, two water storage tanks, and sewer lines, and paved the streets. In 1946, it sold the houses for $1,000 each.

Six years later, in 1952, residents raised $400 to do something about the coal refuse pile. But that wasn't enough to make much of a dent in the pile.

During the next 22 years, what was left of the refuse heap began eroding, and sediment choked storm sewers. Gullies 10 feet deep and 6 feet wide slashed across the face of the huge pile. Large volumes of sediment accumulated on Franklin Street, located just below the refuse heap. Other masses of sediment reached Pigeon

Over 22 years, the massive pile eroded—sending sediment into streets, storm sewers, and streams.

Creek, which already was highly polluted by drainage from other sources.

By 1974, concerned Cokeburg residents filed an application for assistance from the Penn's Corner Resource Conservation and Development area. A plan to stabilize the pile was prepared with technical assistance from the Soil Conservation Service.

Work included grading 2 acres and installing 2,156 feet of tile drains, 947 feet of diversions, 192 feet of open channel, 712 feet of stone-centered waterways, and two debris basins. Lime, fertilizer, and seed were applied to 13 acres.

SCS, through the RC&D program, and Cokeburg shared the $18,000 project cost. It was the first federal grant money ever spent in Cokeburg, according to Borough Council President Mike Megles. Under a Department of Housing and Urban Development grant, another baseball diamond and other recreation facilities will be established within the park.

"The RC&D measure was the 'starter' for us," noted RC&D Council Chairman Frank Malinzak. "Completing the stabilization work made it practical to go ahead with projects we used to consider just wishful thinking."

Mr. Ulery is resource conservation and development coordinator, SCS, Monessen, Pennsylvania.

First Impressions of a Farm

by Gene Warren

A Future Farmers of America special project is bringing a touch of farm life to hundreds of Louisiana elementary school students.

FFA chapter members team up with small groups of third-graders as the students find out why different soils are suited for production of different crops.

Ask a third-grader in Crowley, Louisiana, what happened in school today, and you may hear: "I touched a sheep. I rode a horse. I pulled up a radish. And I saw a tractor moving. When the tractor dug up the ground, the soil smelled good."

Discovering some of the realities of farm life firsthand is a standard part of the curriculum for third-graders in this south Louisiana community.

The 2-year-old venture is sponsored by the National Future Farmers of America Foundation as part of its "Food For America" project. Its aim is to show children where their food comes from. In Crowley, the organizers are older students—FFA chapter members at Crowley Senior High School.

Grace Brown's third-grade class at South Crowley Elementary School was the first to take advantage of the youth project.

"It's one of the finest experiences our children have in school," Mrs. Brown said. "Most people assume that children come in contact with farm animals and food crops. But more than half don't. It is impossible to overestimate the value of their direct, sensory experience. A child who pokes through soil to find the roots of a vegetable, confronts a cow face-to-face, smells a barnyard, and sits at the edge of a pond to watch ducks is not likely to forget the experience."

"Our aim is simple," said Lester Turner, an agriculture teacher and

A visit to the chapter's greenhouse offers a chance to compare plant growth under varied test conditions.

FFA adviser at the high school. "We want to share the land and its resources with the children."

Tommy Faulk, an FFA member, explained: "We talk about the problems that farmers have, about the many types of farming, and what happens to crops after they leave the farm. The children also learn about conservation measures that protect soil from erosion."

The demonstration farm is divided into two parts. Two acres, behind the high school, are used for a vegetable garden and greenhouse. Nearby, there are 10 acres for sheep, beef and dairy cows, geese, turkeys, rabbits, and a pond for fish and ducks.

Through the Acadia Soil and Water Conservation District, the Soil Conservation Service made a special soil survey on the farm. The soils information is shared with the visiting children.

"At first glance, it might seem that soils data is a little too sophisticated for children," Turner said, "but, it isn't. They're interested to learn that some soils shrink and swell and that some are better suited for certain crops than others."

All 400 of Crowley's third-grade students are being included in the "Food For America" project this year.

Mr. Warren is public information officer, SCS, Alexandria, Louisiana.

Getting close to farm animals for the first time is an opportunity sometimes approached with a little caution.

Meetings:

March

5–9	Association for Supervision and Curriculum Development, Detroit, Mich.
6–8	The Wildlife Society, Atlanta, Ga.
6–9	North American Wildlife and Natural Resources Conference, Atlanta, Ga.
20–25	American Concrete Pipe Association Annual Convention, Las Vegas, Nev.
21–24	Land Use Planning Symposium, sponsored by Soil Conservation Society of America, American Institute of Planners, American Society of Planning Officials, Council of State Governments, National Association of Conservation Districts, and Urban Land Institute, Omaha, Nebr.
21–25	Hardwood Plywood Manufacturers Association, Annual Spring Meeting, Cancun, Mexico.
25–27	National Wildlife Federation, Washington, D.C.
28–Apr. 1	Ninth Recreation Management Institute, sponsored by The National Park Service, The Department of Recreation and Parks, The Texas Agricultural Extension Service, The Agricultural Experiment Station, College of Agriculture, Texas A&M University, College Station, Tex.
30–31	Air pollution Control Association, Washington, D.C.

April

3–5	American Pulpwood Association, Atlanta, Ga.
3–6	National Water Safety Congress, Twenty-seventh Annual Meeting, Memphis, Tenn.
6–8	Engineering Geology and Soils Engineering Symposium, Pocatello, Idaho
11–16	International Agricultural Plastics Congress, San Diego, Calif.
23–28	American Society of Planning Officials, San Diego, Calif.
24–27	Association of American Geographers, Salt Lake City, Utah

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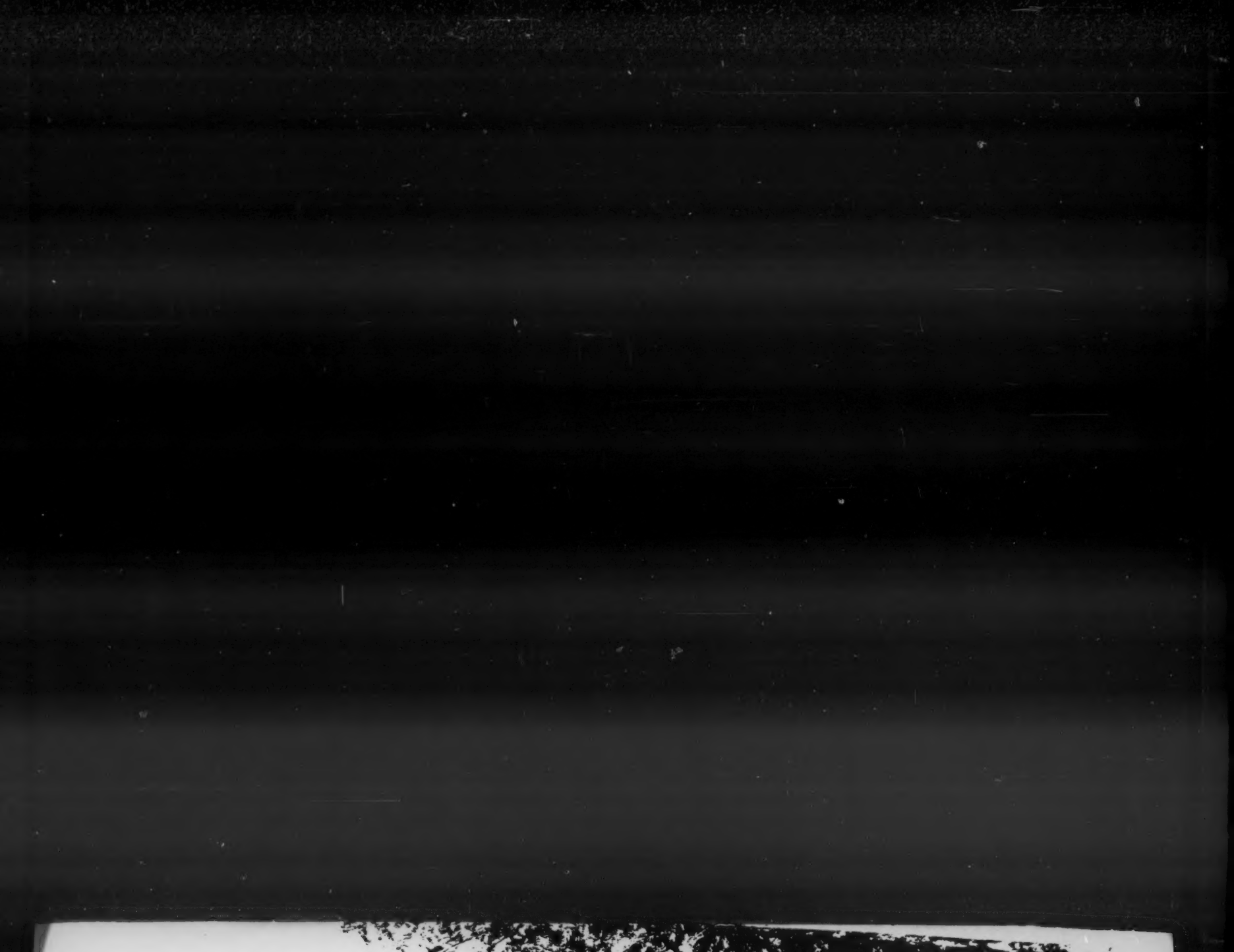
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